Direct Metal Laser Sintering (DMLS)

Cobalt chrome / CoCr

Key Features

Stiffness • Corrosion resistance • Biocompatibility • Wear resistance • Heat resistance

Product Description

Cobalt Chrome is a high corrosion resistance alloy. THe formation of a passive film of Cr203 protects the primary material of this alloy. The mechanical properties are excellent due to increased hardness and tensile strength. This alloy has seen wide applications in the medical and dentistry industries due to its biocompatibility, wear resistance, and chemical inertness. In addition, it is used in the production of wind turbines, cutting tools, and other mechanical parts that require high wear - resistance.

Properties*

Yield strength (xy/z)	1,060 / 800 MPa
Tensile strength (xy/z)	1,350 / 1,200 MPa
Elongation at break (xy/z)	11 / 24%
Modulus of elasticity (xy/z)	200 / 190 GPa
Thermal conductivity (at 20 °C)	13 W/m °C
Coefficient of thermal expansion (over 20 - 500 °C)	13.6 x 10-6 m/m °C
Maximum operating temperature	approx. 1,150°C
Melting range	1,350 - 1,430 °C
Density	8.3 g/cm^3
Hardness	35 HRC
Weldability	Yes

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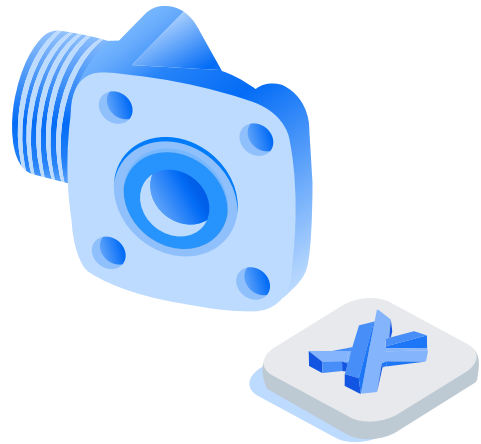
Applications

Aerospace
Engineering
Machine building
Medicine, dentistry
End-use parts



Chemical Composition

C	0.16	Si	1
Co	60 - 65		
Cr	26 - 30		
Fe	0.75		
Mn	1		
Mo	5 - 7		
Ni	0.1		

Reference

For more detailed source information, please consult the original document linked here. We encourage users to verify the data's relevance and suitability for their specific needs.